

Appl. No. 10/619,020
Reply to Office Action of April 13, 2005

Docket No. RTN-147CUS

REMARKS

The above-identified patent application has been amended and Applicants respectfully request the Examiner to reconsider and again examine the claims as amended.

Claims 1 – 20 are pending in the application. No claims are yet allowed. Claims 1 – 20 are rejected. Claim 1 is amended by this response. No claims are cancelled by this response and no claims are being added by this response.

In accordance with the revised provisions of 37 C.F.R. §1.121(c) as enacted on July 30, 2003, a marked up version of the amended claims is provided above.

Before proceeding with a discussion of the rejections set forth in the Office Action, Applicants would like to point out that the Amendment to Claim 1 (substituting the word “form” for the word “sense”) is made for reasons of clarity and form and not to overcome any prior art rejections set forth by the Examiner in the Office Action. Applicants would also like to point out that Claim 20 as originally filed uses the word “form” in a manner very similar to that now used in amended Claim 1.

Proceeding now with a discussion of the rejections set forth in the Office Action, the Examiner rejects Claims 1-3 and 20 under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 4,509,055 issued to Fassett and assigned to Raytheon Company (hereinafter Fassett).

To sustain a rejection under 35 U.S.C. §102(b), a single reference must disclose each and every element of the claimed invention.

In this case, the Fassett reference neither describes nor suggests a “...controlling a switched beam combining circuit of a receive antenna array of the transmit and receive system to form a plurality of receive radiation beams ...” as called for in Claim 1 of the instant application.

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On page 2 of the Office Action, the Examiner asserts that Figs. 2, 3B and 4 of Fassett show controlling a switched beam combining circuit to form a plurality of receive beams. Applicants have carefully reviewed all pages and figures of the Fassett patent and Applicants do not find any reference to ...controlling a switched beam combining circuit....".

Figs. 2 and 4 of Fassett do show a single transmit/receive (TR) switch. As is known, however, TR switches such as that described in Fassett function to direct transmitted energy from a transmitter to an antenna received energy from an antenna to a receiver. The TR switch in Fassett does not provide a plurality of receive beams as called for in Claim 1. A fair reading of the instant application makes clear that controlling a single TR switch of the type described in Fassett is not the same as controlling a switched beam combining circuit to provide a plurality of receive beams as called for in Applicant's Claim 1.

Fig. 3B of Fassett does not show a TR switch or any other type of switch, but does show a circulator which leads to TR switch 49 in Fig. 4.

In view of the above, Applicants submit that Claim 1 is patentably distinct over Fassett. Applicants additionally submit that the rejection of Claim 1 under 35 U.S.C. §102(b) in view of Fassett is clearly improper and should be removed.

Claims 2 and 3 each depend from and thus include the limitations of Claim 1. Thus, Applicants submit that Claims 2 and 3 are also patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 1.

Applicants submit that independent Claim 20 is patentably distinct over Fassett since Fassett neither describes nor suggests a "...transmit and receive system comprising ... a beam combining system coupled to the second array and being operative to form a plurality of receive beams, wherein predetermined one of the plurality of transmit beams and predetermined ones of the plurality of receive beams are combined to form a plurality of two-way beams ..." called for in Claim 1.

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Applicants submit that a single TR switch of the type disclosed in Fassett is not the same as a beam combining system... operative to form a plurality of receive beams as recited in Claim 20.

In view of the above, Applicants submit that the rejection of Claims 1-3 and 20 under 35 U.S.C. §102(b) should be removed.

The Examiner rejects Claims 4-19 under 35 U.S.C. §103(a) as being unpatentable over Fassett. In the Office Action, the Examiner asserts that "Fassett teaches the use of combining many beams" (see Office Action dated April 13, 2005, Para. 5, line 3). The Examiner then concludes that it would have been obvious to employ any number of beams...."

As an initial matter, Claims 4-19 each depend, either directly or indirectly, from independent Claim 2 and thus include the limitations of Claim 2. Applicants thus submit that Claims 4-19 are patentably distinct over the cited reference since the reference neither describes nor suggests "...controlling a switched beam combining circuit of a receive antenna array of the transmit and receive system to form a plurality of receive radiation beams ..." as called for in each of Claims 4-19.

The Figures and sections of the Fassett reference relied upon by the Examiner do not relate to combining beams to form receive beams. Rather, those portions of Fassett related to reception of horizontally polarized and vertically polarized energy (hence the use of the letters "H" and "V" in Figs 3B and 4 when referring to the orthogonal radiators 43H, 43V). Fassett uses the received energy to form conventional sum and difference beams for a monopulse system.

Applicants would also like to respectfully point out that the Examiner has not explained any relationship between the conventional monopulse system of Fassett and Applicants beam combining system. Rather, in Applicants' view, the Examiner has merely proffered what appears to be an unsupported conclusion that "the skilled artisan would have found it obvious to employ any number [of beams]...."

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Applicants see no relationship between "controlling a beam switching system..." to combine various transmit and receive beams as claimed by Applicant the conventional monopulse system having a sum beam and two difference beams as described in Fassett.

In view of the above, Applicants submit that Claims 4-19 are patentably distinct over Fassett whether taken alone or in combination with any other references of record in this case.

In view of the above, Applicants submit that the rejection of Claims 4-19 under 35 U.S.C. §103(a) should be removed.

In view of the above Amendment and remarks, Applicants submit that Claims 1-20 and the entire case are in condition for allowance and should be sent to issue and such action is respectfully requested.

The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Amendment or this application.

The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845, including but not limited to, any charges for extensions of time under 37 C.F.R. §1.136.

Dated: 13 JUL 05

Respectfully submitted,

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